REMARKS

Claims 30-49 are pending in the application. Claims 30, 31, 37-40, and 45-48 have been amended to better describe the invention and for consistency reasons. Favorable reconsideration in light of the amendments and the remarks which follow is respectfully requested.

The Amendments

The independent claims have been amended to specify that the hemocompatible surface does neither activate nor actively suppress a blood coagulation system when having direct contact with blood. Support for the amended feature exists in the specification, for example, at page 4, line 8.

The Adequate Description Rejection

Claims 30-38 have been rejected under 35 U.S.C. § 112, first paragraph, for not adequately describing the absence of thrombomodulin. The claims have been amended by removing the features relating to thrombomodulin, thereby rendering the rejection moot.

The Indefiniteness Rejection

Claims 30-49 have been rejected under 35 U.S.C. § 112, second paragraph, for indefiniteness with regard to the term "material". The claims have been amended to clarify that the hemocompatible surface exists on an article, device, or material. One skilled in the art would readily understand that the article, device, or material has a hemocompatible surface having the features described in the claims.

The Art Rejection

Claims 30-49 have been rejected under 35 U.S.C. § 102(b) or § 103(a) over Reich et al (WO 91/03990). Reich et al relates to prosthetic corneas and epikeratophakia lenses having synthetic surfaces that are more suitable for protein

binding due to a surface modifier composition. The surface modifier composition contains a polymer with a plurality of pendant groups, and cell supporting materials (such as collagen and chondroitin sulfate).

To establish anticipation, each and every claim feature must be disclosed in a single cited art document. The claims require a hemocompatible surface. Reich et al fails to disclose, teach, or suggest hemocompatible surfaces. In fact, the word "hemocompatible" or "hemocompatibility" is NOT mentioned anywhere in Reich et al. Since Reich et al does not disclose all of the claimed features, Reich et al cannot anticipate claims 30-49.

With regard to obviousness, it is noted again that Reich et al is directed to prosthetic corneas and epikeratophakia lenses. However, since prosthetic corneas and epikeratophakia lenses do not come into direct or indirect contact with blood, prosthetic corneas and epikeratophakia lenses do not have to be hemocompatible. This difference, as well as other differences between the claims and Reich et al, are of sufficient magnitude that Reich et al would not have motivated one skilled in the art to create the claimed hemocompatible surfaces. This is explained in greater detail below.

Reich et al does not relate to hemocompatibility; rather, Reich et al relates to epithelial cell supporting. This is because prosthetic corneas and epikeratophakia lenses do not have to be hemocompatible. Prosthetic corneas and epikeratophakia lenses must provide good support of epithelial cell attachment and consequent stabilization of these cells. There is NO relationship between hemocompatibility and a good support of epithelial cell adhesion or cell growth

In this connection, Reich et al actually teaches away from the claims because the claimed hemocompatible surfaces are surfaces which are provided to avoid ANY cell attachment and cell growth thereon of ANY kind of cells, including epithelial cells which are present in blood. The claimed hemocompatible surfaces contain consituents that mask the article, device, or material to the blood's coagulation system and thus makes the surfaces invisible to the coagulation system. What this means is that nothing (such as no cells) will adhere, attach or grow on the claimed hemocompatible surface. The

function of the claimed hemocompatible surfaces is opposite the function of the surfaces of the prosthetic corneas and epikeratophakia lenses of Reich et al.

Hemocompatibility has to do with the ability NOT to attract/attach cells and thus have a masked surface. Hemocompatibility means that cell attachment and cell growth is prevented. Prosthetic corneas and epikeratophakia lenses MUST attract and attach epithelial cells and thus not have a masked surface. Since there is no relationship between hemocompatibility and a good support of epithelial cell adhesion or cell growth, one skilled in the art would not have been motivated by the prosthetic corneas and epikeratophakia lenses of Reich et al to make the claimed hemocompatible surfaces.

It is noted that the claimed hemocompatible surfaces require a constituent of an outer layer of a blood cell and/or a constituent of an outer layer of a mesothelial cell. If Reich et al were to employ chondroitin sulfate isolated from the outer layer of blood cells or mesothelial cells, this particular chondroitin sulfate would prevent the attachment and growth of epithelial cells. Since the purpose of Reich et al is to improve surfaces for epithelial cell adhesion or cell growth, one would not render prosthetic corneas and epikeratophakia lenses of Reich et al inoperable for their intended purposes.

In other words, there is a significant difference between chondroitin sulfate isolated from the outer layer of blood cells or mesothelial cells and chondroitin sulfate that is obtained from other sources than the outer layer of blood cells or mesothelial cells. Chondroitin sulfate is a generic term, covering discrete chondroitin sulfates distinguished by the source material, precise chemical structure, and chemical function. The significant difference in biological functions of chondroitin sulfates from different source materials cannot be ignored. This is why the claims specifically require chondroitin sulfate isolated from the outer layer of blood cells or mesothelial cells. This is also why Reich et al does NOT teach or suggest using chondroitin sulfate isolated from the outer layer of blood cells or mesothelial cells (because the prosthetic corneas and epikeratophakia lenses would function to support epithelial cell adhesion). That is,

Reich et al does NOT teach or suggest using chondroitin sulfate isolated from the outer layer of blood cells or mesothelial cells because the surfaces of its prosthetic corneas and epikeratophakia lenses would NOT function to support epithelial cell adhesion. The claimed hemocompatible surfaces will NOT function properly when constituents are not obtained from an outer layer of a blood cell and/or an outer layer of a mesothelial cell.

While Reich et al does mention collagen, fibronectin, laminin, polylysin, and polyurethanes, these materials cannot be isolated from the outer layer of blood cells or mesothelial cells because these compounds are NOT present on the outer layer of blood cells or mesothelial cells. To reiterate, the constituents from the outer layer of blood cells and mesothelial cells make the claimed surfaces hemocompatible. Furthermore, it is noted that Reich et al does not teach or suggest heparin sulfate anywhere therein.

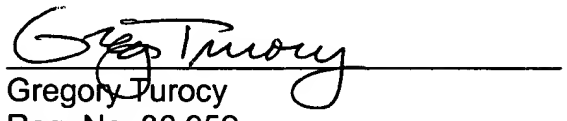
The claims require that the hemocompatible surface does neither activate nor actively suppress a blood coagulation system when having direct contact with blood. Since Reich et al fails to teach or suggest hemocompatible surfaces that neither activate nor actively suppress a blood coagulation system when having direct contact with blood, and since Reich et al fails to teach or suggest constituents that neither activate nor actively suppress a blood coagulation system, one skilled in the art would not have been motivated by Reich et al to make a hemocompatible surface does neither activate nor actively suppress the body's blood coagulation system. Accordingly, Reich et al cannot render the claims obvious.

Should the Examiner believe that a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact Applicants' undersigned attorney at the telephone number listed below.

In the event any fees are due in connection with the filing of this document, the Commissioner is authorized to charge those fees to our Deposit Account No. 50-1063.

Respectfully submitted,

AMIN & TUROCY, LLP



Gregory Turocy
Reg. No. 36,952

24th Floor, National City Center
1900 East 9th Street
Cleveland, Ohio 44114
(216) 696-8730
Fax (216) 696-8731